IN THE CLAIMS:

A complete listing of the claims is set forth below. Please amend the claims as follows:

1-10. **(Cancelled)**.

11. **(Previously Presented)** A computer-implemented system for deploying parts, comprising one or more processing units operable to execute one or more software components to:

define a plurality of locations comprising a plurality of supply locations and a plurality of demand locations, a supply location being operable to supply a plurality of parts to a demand location;

compute a demand for each part at each location;

estimate an availability lead-time for each part at each location;

compute a lead-time demand for each part at each location using the availability lead- times for the part;

compute a stock level for each part at each location;

determine a completely filled demand from the lead-time demands and the stock levels;

determine a partially filled demand from the lead-time demands and the stock levels; and

generate a coverage function for the parts at the locations from the completely filled demand and the partially filled demand.

12. **(Previously Presented)** The system of Claim 11, wherein the one or more processing units are operable to execute the one or more software components further to:

optimize the coverage function; and

determine an optimal deployment of the parts at the locations according to the optimized coverage function.

13. **(Previously Presented)** The system of Claim 11, wherein the one or more processing units are operable to execute the one or more software components further to:

determine a completely backordered demand from the lead-time demands and the stock values;

determine a partially backordered demand from the lead-time demands and the stock values;

generate a backorder function for the parts at the locations from the completely back ordered demand and the partially backordered demand;

minimize the backorder function; and

determine an optimal deployment of the parts at the locations according to the minimized backorder function.

14. **(Previously Presented)** The system of Claim 11, wherein the one or more processing units are operable to execute the one or more software components further to:

generate a cost function for the parts at the locations;

minimize the cost function; and

determine an optimal deployment of the parts at the locations according to the minimized cost function.

15. **(Previously Presented)** The system of Claim 11, wherein the one or more processing units are operable to execute the one or more software components to compute the lead-time demand for a part at a location comprising a demand location by:

calculating a probability that a supply location can supply the part to the demand location;

computing a replenishment lead-time at the demand location according to the probability; and

computing the lead-time demand at the demand location from the demand at the demand location and the replenishment lead-time at the demand location.

16. **(Previously Presented)** The system of Claim 11, wherein the one or more processing units are operable to execute the one or more software components to compute the lead-time demand for a part at a location by:

receiving an ordered list comprising at least a subset of the supply locations;

repeating the following for each supply location of the ordered list:

calculating a probability that a supply location supplies the part to the demand location, given that no other supply location has supplied the part; and

selecting the next supply location of the ordered list; and

estimating the availability lead-time at the location from the calculated probabilities.

17. **(Previously Presented)** The system of Claim 11, wherein the one or more processing units are operable to execute the one or more software components to estimate the availability lead-time for a part at a location comprising a target demand location by:

estimating an availability lead-time for the part at a supply endpoint; and

repeating the following until the target demand location is reached:

estimating an availability lead-time for the part at a supply location; and

estimating an replenishment lead-time for the part at a demand location according to the availability lead-time for the part at the supply location, the supply location operable to supply the part to the demand location.

18. **(Previously Presented)** The system of Claim 11, wherein the one or more processing units are operable to execute the one or more software components to compute the demand for a part at a location comprising a supply location by:

calculating a demand at a demand location operable to receive the part from the supply location;

calculating a dependent demand at a location according to the demand at the demand location for the location;

identifying an independent demand at the supply location; and

computing the demand at the supply location from the dependent demand and the independent demand.

19. **(Previously Presented)** The system of Claim 11, wherein the one or more processing units are operable to execute the one or more software components to compute the demand for a part at a location comprising a supply location by:

calculating a demand at a demand location operable to receive the part from the supply location;

establishing a probability of repairing the part at the demand location; and

determining the demand at the supply location according to the demand at the demand location and the probability of repairing the part at the demand location.

20. **(Previously Presented)** The system of Claim 11, wherein the one or more processing units are operable to execute the one or more software components to compute the demand for a part at a location comprising a target supply location by:

calculating a demand at a demand endpoint; and

repeating the following until the target supply location is reached:

calculating a demand at a demand location; and

calculating a demand at a supply location operable to supply the part to the demand location according to the demand at the demand location.

21-32. **(Cancelled)**.